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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,609	08/26/2003	Irene Dris	120801-1	4235

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EXAMINER	
ANGEBRANNDT, MARTIN J	
ART UNIT	**PAPER NUMBER**
1795	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/648,609	DRIS ET AL.	
	Examiner	Art Unit	
	Martin J. Angebranndt	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,9,11-14,16-33,35-38,40-42 and 44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9,11-14,16-33,35-38,40-42 and 44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The response of the applicant has been read and given careful consideration. Responses to the arguments of the applicant are presented after the first rejection to which they are directed. The amendment to the specification are approved and do not introduce any new matter. Rejections of the previous office action, not repeated below are withdrawn based upon the amendments and arguments of the applicant.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3,5-6,11-14,16-21,27-30,42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, further in view of Daecher et al. '829, Inuoe '630 and Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent].

Niwano et al. In example 1 teaches a substrate comprising a 50:50 ratio of polydimethyl-1,4-phenylene) ether and polystyrene (see [0033-0034] in the prepub of the instant application) which is injection molded at a resin temperature of 320 degrees and a mold temperatuee of 85 degree C to form a substrate having a diameter of 130 nm in a Neomat Model 150/75 (75 ton clamping force) supplied by Sumitomo Heavy Industries, a thickness of 1.2 mm and grooves with a pitch of 1.6 microns, which is then coated with a SiN layer an TbFeCo magnetooptic recording layer and a second SiN layer (7/39-8/34). The resulting media have a low birefringence, high heat resistance, good strength, dimensional stability and adhesion to the layers applied to it. (3/1-12). The aromatic vinyl monomer may be various styrenes polymers and copolymers with other free radically polymerizable monomers (3/22-41). Important molding

conditions include resin temperature, injection pressure and mold temperature to control the birefringence (5/60-68).

Ohgo '671 teaches optical recording media using SIL heads with a 413 nm laser and a 0.8 NA, where a optical disk master having a pitch of 0.32 microns is formed and the depth of the grooves is approximately 25, 50 or 75 nm (thickness of the resist in table 1, as these develop the entire thickness of the resist and then use plating to form the master) [0065,0068]. The substrate is molded using the stamper master and a reflective layer, an SiN layer, a NdFeCo layer, and SiN layer applied [0079]. The use of TbFeCo [0081] or phase change recording layer materials is disclosed. [0075]. In another example using a phase change recording layer, the substrate is molded using the stamper master and an Al reflective layer, a second dielectric layer, a AgInTeSb recording layer, a first dielectric layer, an adhesive layer and 90 micron polycarbonate sheet are applied [0072]. A similar example using a dye based recording layer is disclosed. [0083-0086].

Daecher et al. '829 teach the use of filtration with a 5 micron metal fiber melt filter (pleated candle type) (example 5, 17/44-46). The formation of optical recording media substrates is disclosed (example 6). The use of melt filtration to remove gels, dirt and foreign particles from the melt. (11/34-46).

Inuoe '630 teaches injection molding of optical recording media substrates using clamping forces of 40 ton. (7/4)

Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent] teaches the use of various molding processes to form optical recording media substrates useful for optical recording media using a blue laser, where the resin temperature is 250 - 360 degrees C, the mold

temperature is 60-140 degrees C (24/7-13, [0110]. The replication degree is more than 90% in the inventive examples (table 2, page 34, [0154]).

It would have been obvious to one skilled in the art to modify the cited example of Niwano et al. '142 by using the molding process disclosed with an insert which allows the formation of other grooves with smaller pitches such as those taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording medium with ability to store information at a higher density with a clamping force of 40 tons based upon the disclosure of the injection molding apparatus having a clamping force capability of 75 tons abd the 40 tones taught by Inuoe '630 and to modify the process rendered obvious by the combination of Niwano et al. '142 and Ohgo '671 by using melt filtering to remove particulates having sizes of more than 5 microns as described by Daecher et al. '829 based upon this being described as well known and conventional for arts involving processing of thermoplastics and compatible with forming optical disc substrates using injection molding with a reasonable expectation of forming substrates with a degree of replication of more than 90% based upon the direction in Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent].

Further, it would have been obvious the resulting media by using other recording layers, such as phase change recording layers or dye based recording layers, which may include a polycarbonate cover layer atop the upper dielectric based upon the disclosure to do so within Ohgo '671

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re*

Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). It is clear than none of the references teach all the limitations. The arguments that the melted (liquid) resin could not be injection molded Niwano et al. '142 to form the finer features taught in Ohgo '671, who also described molding of (molten) resins is without any support and is entirely without merit. Were this an embossing of the solid resin, the applicant might have a point, but the molten resin can be made to flow into the fine features of the mold, particularly under the pressures of injection molding. There is clearly a motivation to form finer pitches is clear in that more tracks allow a higher information content medium to be formed. This is well appreciated in the art. The Daecher et al. '829 is applied to establish that melt filtering is well known in the art of forming optical disk substrates as a treatment of the resin prior to molding.

The applicant's argument fails to appreciate that the pressure are taught and that the injection molding machine of Niwano et al. '142 is rated for a maximum clamping force of 75 ton and 40 ton is taught by Inuoe '630. Therefore the added parameters are taught in the references applied. The applicant's arguments fails to appreciate that these are conventional molding conditions and that optimization of the molding conditions to accurately replicate the features would be within the skill of one of ordinary skill in the art. Being that the temperatures are taught in the cited example, the applicant bears the burden of showing the criticality of the clamping pressure and that this lies outside the range of routine optimization. Clearly the prior art record establishes that this is within the routine optimization and that poor replication would drive one to perform that optimization. Further, the desired values is 100%, so any values deviating from this are less desirable, so the more than 90% replication fails to errors with percentages over 100%.

4. Claims 1-6,11-14,16-21,25,27-31,33,35-38,40-42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, in view of Daecher et al. '829, Inuoe '630 and Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent], further in view of Saito et al. '261.

Saito et al. '261 teach topside optical recording media which use a cover layer. The cover layer may be made of PANLITE, which is a bisphenol A polycarbonate. [0060]. The use of a protecting layer on the cover layer is disclosed. [0063-0064].

In addition to the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to use PANLITE as the polycarbonate cover layer in media resulting from the combination of Niwano et al. '142, Ohgo '671 and Daecher et al. '829 with a reasonable expectation of forming a useful optical recording medium. The examiner holds that the protective layer atop the protective layer taught by Saito et al. '261 meets the limitation of the high modulus layer of claim 31.

5. Claims 1-6,11-14,16-31,33,35-38,40-42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, in view of Daecher et al. '829, Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent] and Saito et al. '261, further in view of (Ueda et al. JP 2000-315891 or Ito et al. EP 1178068) combined with Ogawa et al. '313.

Ueda et al. JP 2000-315891 (machine translation attached) teaches polystyrene:polycarbonate mixtures useful for optical recording media substrates. These include the use of bisphenol A and bis(4-hydroxyphenyl)methane and hydroxyaryl cycloalkane monomers in these mixtures. (abstract, [0010])

Ogawa et al. '313 teach polycarbonate resins which are useful in optical applications, examples include bisphenol A, bis(4-hydroxyl) menthane and mixtures of these. [0031]. The use of these as optical disk substrates and as optical sheets for near field recording media is also disclosed. [0002].

Ito et al. EP 1178068 teaches the use of various polycarbonates for use in laser discs and the like [0002]. The use of 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) and bis 1,8-(4-hydroxyphenyl)menthane (sic bis 1,3-(4-hydroxyphenyl)menthane as there are not 8 positions on the cyclohexyl ring) as starting materials.

In addition the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to modify the combination of Niwano et al. '142, Ohgo '671, Saito et al. '261 and Daecher et al. '829 to use other polycarbonate compositions known to be useful in optical recording media, particularly the polycarbonate-polystyrene copolymers disclosed by Ueda et al. JP 2000-315891 or the polycarbonate resins using 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) or bis 1,3-(4-hydroxyphenyl)menthane taught by Ito et al. EP 1178068 based upon the use of polycarbonate resins either in the substrates or the protective layers as taught by Ogawa et al. '313 which are known to be useful in substrates and/or cover layers in place of PANLITE or the polycarbonate sheet taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording media having a cover layer with good transparency and low birefringence. Further it would have been obvious to use a combination of the precursors 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) and bis 1,3-(4-hydroxyphenyl)menthane taught by Ito et al. EP 1178068 based upon the disclosure of the use of copolymers of hydroxyphenyl by Ogawa et al. '313.

The applicant's response fails to appreciate that the substrate materials are taught in Niwano et al. '142 and that Saito et al. '261 establish the use of polycarbonate sheet as a protective layer and Ueda et al. JP 2000-315891, Ito et al. EP 1178068 and Ogawa et al. '313 are cited to establish useful chemical compositions for these polycarbonate sheet materials.

The applicant argues that the there is no expectation of success in forming the fine pitches in the melted resins taught in the prior art by injection molding. There is no support in the specification or elsewhere in the record to support this. The examiner notes the benefits ascribed to the mixture are more in line with reduced tilt/warpage due to humidity changes (figures 2-4) and tilt/warpage due to curing (figure 5). The data in figure 6 does not seem to support anything beyond control of shrinkage in the molding process as the values bound that of BPA. The high degree in accuracy in the transfer of the pattern can be attributed to the lack of particulates in the resin and one skilled in the art would expect this increased accuracy to be realized whenever particles are removed.

6. Claims 1-6,11-14,16-33,35-38,40-42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, in view of Saito et al. '261, Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent], Daecher et al. '829, Inuoe '630, (Ueda et al. JP 2000-315891 or Ito et al. EP 1178068) and Ogawa et al. '313, further in view of Mino et al. '957 or Dris et al. WO 03/021588.

Mino et al. '957 teach silicon hard coat agents provided on protective layers [0060]. The hard coat agents are disclosed as providing wear resistance [0049].

Dris et al. WO 03/021588 teach the provision of high modulus layers to optical recording media, including silicon hardcoats and copolycarbonate esters (6/3-27 and claim 6). These are

disclosed as being able to be placed atop the thin film layer and data layers as shown in figure 2 and confer additional stability (3/1-12).

In addition the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to modify the combination of Niwano et al. '142, Ohgo '671, Saito et al. '261, Daecher et al. '829, (Ueda et al. JP 2000-315891 or Ito et al. EP 1178068) and Ogawa et al. '313 as discussed above by adding the silicon hardcoats or copolycarbonate resin overcoats taught by Mino et al. '957 or Dris et al. WO 03/021588 as the overcoating of the protective layer taught by Saito et al. '261 with a reasonable expectation of gaining the increased hardness and/or stability ascribed to the addition of these layers by Mino et al. '957, Dris et al. '405 or Dris et al. WO 03/021588.

7. Claims 1-6,11-14,16-21,27-30, 42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feist et al. '455, Daecher et al. '829, Inuoe '630, Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent] and Ohgo '671.

Feist et al. '455 in examples 1-8 teach optical recording media which are grooved with grooves 50 nm deep and a pitch of 0.8 micron. [0048-0063]. The coating of various data storage layers on the substrate is disclosed. [0039]. The disclosure of first surface recording media where the substrate is coated with a reflective layer, a dielectric layer, a recording layer, a dielectric layer and a protective layer is disclosed. [0038]. The protective layer may be materials including polycarbonates [0040]. The use of melt filtration is disclosed as desirable for removing contaminants and/or decomposition products. The resins temperature can be 270-340 degrees C [0035].

It would have been obvious to one skilled in the art to modify the embodiments rendered obvious by the first example of Feist et al. '455 and the teachings of Daecher et al. '829 by using other grooves with smaller pitches such as those taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording medium with ability to store information at a higher density and/or it would have been obvious to modify the cited example of Ohgo '671, by using the substrate material of Feist et al. '455 with a reasonable expectation of forming a useful optical recording medium where the substrate demonstrates low birefringence, high heat resistance, good strength, dimensional stability and adhesion to the layers applied to it. Further, it would have been obvious the resulting media by using other recording layers, such as phase change recording layers or dye based recording layers, which may include a polycarbonate cover layer atop the upper dielectric based upon the disclosure to do so within Ohgo '671 and using known molding conditions, such as those disclosed by Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent] to achieve a high replication accuracy with a reasonable expectation of success.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). It is clear than none of the references teach all the limitations. The arguments that the melted (liquid) resin could not be injection molded Feist et al. '455 to form the finer features taught in Ohgo '671, who also described molding of (molten) resins is without any support and is entirely without merit. Were this an embossing of the solid resin, the applicant might have a point, but the molten resin can be

made to flow into the fine features of the mold, particularly under the pressures of injection molding. There is clearly a motivation to form finer pitches is clear in that more tracks allow a higher information content medium to be formed. This is well appreciated in the art. The Daecher et al. '829 is applied to establish that melt filtering is well known in the art of forming optical disk substrates as a treatment of the resin prior to molding. The applicant argues that the there is no expectation of success in forming the fine pitches in the melted resins taught in the prior art by injection molding. There is no support in the specification or elsewhere in the record to support this. The examiner notes the benefits ascribed to the mixture are more in line with reduced tilt/warpage due to humidity changes (figures 2-4) and tilt/warpage due to curing (figure 5). The data in figure 6 does not seem to support anything beyond control of shrinkage in the molding process as the values bound that of BPA. The high degree in accuracy in the transfer of the pattern can be attributed to the lack of particulates in the resin and one skilled in the art would expect this increased accuracy to be realized whenever particles are removed. Further there is direction melt filtration in Feist et al. '455

The degree/accuracy of replication is known and has been achieved in the art, as are the conditions for achieving it as evidenced by Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent], who shows the conditions of the molding to be conventional.

8. Claims 1-6,11-14,16-21,25,27-31,33,35-38,40-42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feist et al. '455, Daecher et al. '829, Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent] and Ohgo '671, in view of Saito et al. '261.

In addition to the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to use PANLITE as the polycarbonate cover layer in media resulting from the combination of Feist et al. '455, Daecher et al. '829 and Ohgo '671 with a reasonable expectation of forming a useful optical recording medium. The examiner holds that the protective layer atop the protective layer taught by Saito et al. '261 meets the limitation of the high modulus layer of claim 31.

9. Claims 1-6,11-14,16-33,35-38,40-42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feist et al. '455 combined with Daecher et al. '829, Hashizume et al. WO 02/059173 [US 2004/0077795 is the English equivalent] and Ohgo '671, further in view of (Ueda et al. JP 2000-315891 or Ito et al. EP 1178068) combined with Ogawa et al. '313.

In addition the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to modify the combination of either (Feist et al. '455 or Hay et al. '438) combined with Daecher et al. '829 and Ohgo '671 to use other polycarbonate compositions known to be useful in optical recording media, particularly the polycarbonate-polystyrene copolymers disclosed by Ueda et al. JP 2000-315891 or the polycarbonate resins using 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) or bis 1,3-(4-hydroxyphenyl)menthane taught by Ito et al. EP 1178068 based upon the use of polycarbonate resins either in the substrates or the protective layers as taught by Ogawa et al. '313 which are known to be useful in substrates and/or cover layers in place of PANLITE or the polycarbonate sheet taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording media having a cover layer with good transparency and low birefringence. Further it would have been obvious to use a combination of the precursors 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) and bis

1,3-(4-hydroxyphenyl)menthane taught by Ito et al. EP 1178068 based upon the disclosure of the use of copolymers of hydroxyphenyl by Ogawa et al. '313.

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claim 1-6,11-14,16-33,35-38,40-42 and 44 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-32 of copending Application No. 10/648540 (US 2005/0046056) in view of Feist et al. '455, Daecher et al. '829 and Ohgo '671.

The claims are directed to both the molding process used to form an optical recording medium substrate and the resulting data storage disks, but are silent on the grooves conventionally formed in these substrate and the data layers. The examiner holds that it would have been obvious to one skilled in the art to modify the claimed invention by forming grooves and data layers such as those disclosed by Feist et al. '455, Daecher et al. '829 and Ohgo '671 to

form the claimed optical recording media, noting the similarity, particularly in the disclosure of Feist et al. and Daecher et al. '829.

This is a provisional obviousness-type double patenting rejection.

The applicant argues that no claims are allowed and asks that these rejections be withdrawn. When the claims become allowable this might occur, but the examiner retains these until either a convincing arguments is made regarding the merits, the copending case is abandoned, the claims of the two applications diverge significantly.

This patent application includes claims to the molding conditions and feature replication percentages.

12.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Morita '247 teaches the use of the Sumitomo SD30 with resins temperatures of 340 degrees C, mold temperatures of 125 degrees C and 30 tons injection pressure. (19/65-20/14).

JP 63-293736 teaches replication rates of 95% and mold temperatures of 130 degrees for optical recording media.

Kashiwakura et al. '097 teaches optimization of molding conditions including resin temperatures of 310-375 degrees C, mold temperatures of 111-142 degrees C, and dwell pressures of 150 to 600 kg/ sq. cm (5/23-35).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebranndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Martin J Angebranndt
Primary Examiner
Art Unit 1795

11/14/2007